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THE VALUE OF PSYCHOLOGY FOR TEACHERS.[1]

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I.

CONSIDERING the trend of current opinion, it is probably not necessary to dwell upon the proposition that psychological study of the rational or formal or static or faculty sort cannot be made of much, if any, practical value to the teacher. This seems apparent when we consider what task the teacher must accomplish. Stated in a general way, he must lead his pupils to attain ever more perfect adjustment to their environments. The teacher has to deal with a reactive, dynamic being. He can have no interest in mental processes or forms except as they are concerned in reaction. If it is legitimate for any purpose to view the mind morphologically, it is at least of slight consequence to one who must always deal with mental *function*.

Indeed, I think the teacher may be injured by getting in the way of looking upon mind as anything but a functional organ. I have in my classes sometimes mature students who have had a year or so of formal faculty psychology preparatory to teaching. They have acquired a body of terms which they employ verbally and statically to explain psychological phenomena. Now, these terms get in the way of their looking upon mind as a dynamic agency. If they address themselves to a psychological problem,

[1] An address delivered at the dedication exercises of the School of Education of the University of Chicago, May 13, 1904. From the stenographic report, revised and condensed by the author.

their attention runs over into their verbal terms, and they really cannot see the reacting individual who is trying to adjust himself to some phase of his environment. Happily, though, the study of formal text-book psychology has very little effect one way or another upon the work of many who pursue it, for it is so remote from the teaching process that the two things will not run together. Such psychology is not any closer to teaching than is astronomy or calculus. It is set off in the teacher's mind in a department by itself, so it does not soak into the teaching system to any appreciable extent.

Efficiency in the schoolroom requires first of all that the teacher should be made what I may call "pupil-minded." He must be got into the way of observing how his pupils respond to the situations he presents, and why, and what will secure him most surely and economically the response he wishes. Upon this insight in the teacher depends all success in teaching. The ideal is to make the teacher a naturalist in the human sphere. He must be got, if possible, to see what are the springs of conduct in childhood and youth, and how he can present the stimuli of education so that they may be reacted upon by native impulses and experience in such a way as to correlate the individual ever more closely with his environments. The teacher needs to observe intelligently what happens in the schoolroom; which implies that he must be able to refer particular manifestations to general principles of human nature. Doubtless he gains some of this insight from his every-day contact with people. He could not survive in a social régime if he did not discover and observe some at least of the deepest tendencies of human nature. He may not be able to state what he knows in formal principles, but yet he *feels* that certain traits are common to all men, and he will take due account of them in his attitudes toward people. The one who is most sensitive to these traits of human life — who knows people best, in other words — will, of course, other things being equal, make the best teacher. But with even the most sensitive and cosmopolitan individual there will be subtle principles of human nature — of child-nature, at any rate — of supreme importance in education which he will not appreciate because they have

not been involved in the give-and-take relations of every-day life. A man may know how to read well and yet not be a grammarian. So he may see much of sick people and not be a physician. And the principle applies universally. It is a matter of common observation that the very best teachers in general qualities are very dull when it comes to observing the influence of various studies and methods of teaching upon the thought and conduct of their pupils. One may see a good man in some respects teaching a subject like physics in a verbal, mechanical, fruitless fashion, and he keeps on blindly, saying to himself that his pupils are getting good discipline from his work. He has a few formal pedagogical terms infixed in his mind, and these blur his vision for the phenomena occurring right before his eyes. I think this is the type of most cases of bad teaching, and it suggests the supreme need in training which I have suggested—making the individual "pupil-minded."

II.

When it comes to the question of presenting studies, it will be granted, of course, that, since it is the business of the teacher to guide the pupil to perfect his adjustments, he must himself have made the adjustments which he proposes to have his pupil make; that is to say, he must know his subject thoroughly. And I am convinced that if he had mastered it in its historical or evolutionary, as well as merely logical, development, he would gain considerable which would aid him in presenting it to his pupil economically and effectively. Then he could appreciate the main movements which his pupil would be likely to make at various stages in his efforts to assimilate it. He would see that, speaking in popular phrases, the human mind in thinking any special subject will move through it and around it in a characteristic manner. Knowing this, the teacher could anticipate the pupil's difficulties, and he would understand how to help him best to keep to the straight road, or at least to regain it readily whenever he strayed into by-paths. One who could trace out the detailed phylogenetic development of his subject should know something of its psychology from the ontogenetic standpoint.

Any study is, of course, but a branch of psychology in a certain sense; it is a record of the way men have regarded a particular phase of their environment. The point I wish to make is that if the teacher understood the developmental course of physics, *e. g.*, he would have before him a record, more or less clear and distinct, of how the individual would conduct himself in assimilating his subject. He would know how the mind of the race moved around various topics, and why; what experiences led men out of error into truth; what was the stimulus which led to the development of his subject; and so on. With this knowledge he could locate the pupil in all his wanderings, and lead him back to the trail; and he could save him much waste of time and energy by foreseeing his wrong tendencies and guarding against them.

But we are speaking here of an ideal which has probably never been realized in respect of any study. There are immense gaps in our knowledge of what has been the experience of any and all the subjects of instruction, which represent the most successful efforts of the race in adjusting itself to its environments. And this makes it necessary that the teacher should study what is known regarding the way in which the individual mind most readily assimilates these subjects. He must be made to reflect upon the peculiar nature of the difficulties that lie in the route, what equipment the pupil has for surmounting them, and just what kind of help will be of greatest assistance to him. I speak as if this were all understood, which is doubtless not the case; but yet there is something at least already established, and more is being added to our knowledge every day; and the teacher ought to possess himself of so much as is known.

But it is maintained by some that the teacher gains this knowledge without special study. He has been over the course himself; he has it all in his own experience; why cannot he run over the record and gain enlightenment if he needs it? We are told that one who has made an adjustment himself should be able to lead another to make it. But now, there is probably no adult who can go back over his history and recall the detailed steps he took in assimilating arithmetic. These steps

have for all practical purposes been obliterated. Mental development proceeds by consolidation of experiences; details of adjusting processes are being constantly merged into general reactive systems, which in time become largely or entirely subconscious. The more perfectly one has made an adjustment, the more difficult it is for him to review the processes by which it was made. The greatest artists often know the least of the *modus operandi* of acquiring their art. This was impressed upon me emphatically in a recent experiment which I made in assigning to two students a thesis on the psychology of arithmetic. One was to work it out by introspection and logical analysis, while the other was to teach it, and observe all that occurred. The first individual produced a formal analysis which failed to take account of perhaps the most vital experiences of the child in mastering this subject. He could not discover many of these experiences from a merely logical treatment of his theme, even when he got what light he could from trying to recall how he learned arithmetic himself.

I do not forget that the text-book in any study plans to present it in the order in which the pupil will most effectively assimilate it. Now, the text is, of course, based upon some sort of conception of developmental psychology in a special field. Without question the book is of great value in instruction. It is the product usually of many generations of observation as to the manner in which the mind of the learner will most easily conquer the subject treated. But, as a matter of fact, the available texts for the most part have been worked out from the adult standpoint in large measure. What we have got, then, is a logical arrangement of the facts of arithmetic, for instance, that we regard as of greatest value. But a sequence of facts in any subject arranged according to their degree of objective complexity may not be the best sequence at all when regarded from the standpoint of the learner. Pedagogical and logical sequences in any field are not necessarily the same.

When it is said that the teacher must track out the course which the learner pursues in assimilating a subject, it is understood, of course, that with experience focal consciousness of the

pupil's processes will gradually disappear, and the teacher will handle him appropriately in a more or less subconscious way. As long as the teacher must laboriously follow the movements of his pupil's mind he will be handicapped as an artist. Expert action in teaching, as in other things, must be facile, and in considerable part automatic. Given a situation in his special field, the expert knows without hesitation what is to be done with reference to it. But in the development of this expertness he must first act deliberately; then he must repeat his action often enough so that he may acquire the power of reacting readily and easily. It should be added that the teacher ought not to be made to reflect upon the mechanism of any process which he can perform properly as a matter of suggestion. Automatic action is more effective and safer in all simple situations, if it is rightly adjusted, than reflective action. But in many of the situations in the schoolroom the teacher is not likely to have acquired automatic action of the right sort, and this is why he must be brought to reflect upon what is best to do in these situations. It is probable that much of the work in teaching can never become automatic, because of the variety of minds with which the teacher has to deal, and of the necessity of constant appeal to general principles in the interpretation of special manifestations. If all pupils of a given age reacted in just the same way to every situation in arithmetic, say, one could conceive that after a few years a teacher might be able to teach the subject with as little reflection as he employs in walking or in talking; but no one will grant the assumption. The principle, though, is important, for one may see teachers who are every year growing more expert in the discipline of their pupils and in the teaching of their subjects. Through continued experience they come to *feel* the tendency of different types of minds, and they perceive without calculation what is to be done in the different situations which arise. This, then, must be our ideal — to lead the teacher to study the movements of his pupils' minds just to the extent that this is necessary in order that he may interpret correctly the phenomena of the schoolroom, and to deal most economically and effectively with them.

III.

The teacher ought to make his start in becoming psychologically minded by studying his own experience in order to discover what moves him to action, and what is the method of his attaining adjustment to any situation. In some respects his own experience will be close to that of his pupil. For one thing, he is himself learning during his academic career; and if he can clearly see what happens in his own case, and why and with what results, and what is the line of least resistance in attacking any problem, he will have a basis, at any rate, for understanding his pupil's attitudes, and assisting him to find himself readily. If, for instance, the teacher is beginning a foreign language, and he can discover what steps he must take in order to assimilate it most easily, he will gain some insight into the way in which his pupil will most economically get possession of the mother-tongue. I say he will gain *some* insight; he surely will not gain a complete and correct view, for his own experience will not be precisely like that of his pupil, though viewed *ab extra* they might appear to be so. He is learning the same thing as his pupil; why should not their mental movements be the same? For one reason, because the teacher brings to his study an equipment which his pupil does not possess. He brings not only knowledge which acts in an apperceiving way, but he also brings a tendency of mind which is a generalization of his experience. He has come to regard language more analytically than does his pupil; he has acquired a sort of grammatical sense, too, which his pupil lacks. But if we could lead him to see what he possesses that his pupil does not which makes his present experience different from his pupil's, then we should help him immensely. The teacher needs to get into the habit of asking questions relating to the pupil's stock of experience; he needs to be made *minded* in this direction.

Then, in a broader view, it will be granted that the psychology of the schoolroom is not different in essential principles from the psychology of out-of-doors. The objective situations are, of course, not identical, but the processes in reaction thereupon are undoubtedly the same in principle. The method of the child's

assimilating geography in the school is not essentially different from the method of his getting acquainted with the country about his home. The psychology of schoolroom discipline is not different in essence from the psychology of conduct in the home or on the street. And now, if the intending teacher can interpret his own social experience, and see what are the springs of conduct in human nature, and how social action can be most effectively stimulated, he will gain much that will greatly illumine the work of the schoolroom.

While thus granting the value of the teacher's study of his own experience, it should be said that at the same time there is danger of carrying this too far. If he dwells upon it too greatly, it is likely to subtend too large an angle in his vision of his pupil. If he goes too far in introspection, he will come ultimately to see his pupil solely in terms of his own experience. This, of course, is a very simple principle of psychology; what fills our minds often comes gradually to exclude everything else. That which will not fit into what is in our minds is not discerned at all. This is the chief trouble now with most of our educational psychology. But how can we tell just how far to carry the teacher in the work of introspection? In general, I should say that alongside of his introspection from the beginning must go concrete study of his pupil. If either study must suffer, I should say it ought to be introspection. It will result much better to get the teacher into a habit of observing his pupil's reactions rather than his own. If he observes pupils closely enough, he will come to discover certain uniform modes of action, even if he does not have any clear principles of interpretation derived from the study of his own experience. But if his own experience becomes too stable, if it projects itself into the focus of attention whenever he is before his pupils, it will prejudice his action.

It will not be in place here to discuss in any detail the methods of prosecuting the kinds of studies which have been indicated — the study of experience and of the pupil directly. But it may be said, in passing, that what the teacher needs is to get a view as a whole of the pupil's experience as well as of his own. It is

of little account for him to pick out some more or less isolated act and study it in detail. If he cannot discover the causes of it, the conditions which have given rise to it, and for what purpose it occurs — if he cannot see it in its *setting,* his knowledge will be of little worth to him. This is to say that, whatever method of study the teacher pursues, he must come finally, at any rate, to conceive of the pupil's mind and life as a unity. But this does not mean that minute analysis is to be avoided altogether. On the contrary, such analysis seems absolutely essential if any success whatever is to be achieved in psychological study. The problem here is no different from what it is in any phase of scientific work. No just conception of the nature of objects or phenomena can be gained from studying them merely in the large, or on the outside. Little progress was made in the natural sciences until the analytic method of study was adopted, and the same appears to be true in the psychological sciences. Simply to look on at very complex phenomena is likely to give either an extremely shallow and unsatisfactory, or else a distorted, view. Under such circumstances one sees with his prejudices, and is likely to miss the really vital characteristics of the thing he studies.

These observations lead up to the proposition that the teacher will be benefited by the method of experimental psychology applied to his special problems. I do not imagine the teacher will gain much from experiments upon the threshold of consciousness, as an instance, but I think he will be greatly benefited by an experimental study on some phase of the learning of language, as a typical example. In this way he will be led to the apprehension of subtle processes which otherwise he would never detect, but which for a correct understanding of his problems he must take account of. To make my remark concrete, take such a study as Mr. Bagley's *Apperception of the Spoken Sentence.* This reveals elementary processes which simple observation would never disclose, but which illumine the whole subject of language-learning, and so of language-teaching.

I do not say that the teacher needs to study experimental psychology as it is presented in any text or conducted in any

laboratory today. As a science it deals with much that only very remotely can concern the teacher. But what I urge is that he should know its method, and so much of its results as bear directly upon his tasks in the schoolroom. And these results must relate to the mind as a functional organ. They must concern the individual in his efforts to assimilate himself with some phase of the world. I think the teacher will gain little, if anything, of worth from examining tables showing what is the average number of times a hundred thousand children of any age can tap with a finger or any other bodily member, for instance. Whatever this and similar facts may be worth as items of general information, they certainly are not close enough to the processes of the class-room to throw any light upon them. In a way, doubtless, every psychological fact, and perhaps every other sort of fact, bears some relation, near or remote, to the work of education; but some of these facts are so distant that the teacher can never make the connection. It is true probably that statistical tables and summaries will with some persons determine the validity of principles of human nature, but if the teacher is concerned much with these tables, he will be lost in his figures, and the pupil will move on without his guidance. Or, pending his mathematical computations, he will hinder his pupil in his progress, not being able to get any wisdom from his figures as to the concrete human being before him.

In passing, we may ask whether the teacher is likely to gain anything of value from a study of physiological psychology? It is apparent that in his teaching he is not concerned, directly at any rate, with either the structure of nerve elements or their function. Even if every psychosis is accompanied by a neurosis, it may nevertheless be enough for the teacher to take account only of the former. But this is not to say that mental function could not be made clearer if the teacher knew the outlines at least of cerebral structure and function. To my mind something may be gained by giving current psychological theory a foundation in the architecture and function of the nervous system. It is understood, of course, that in the present stage of our knowledge we cannot say that there is any very detailed

correspondence between mental and nervous function, but those who ought to know say that there are certain general correspondences which are well established, and which it would be profitable for the teacher to understand. If it should give him nothing more, it will at least impress upon him the fact that mental action must occur according to certain patterns; its main features, at any rate, are absolutely determined because of the medium through which it must be expressed.

Then when it comes to abnormal manifestations, which the teacher cannot ignore, physiological psychology will prove of considerable value. Mental defects and deficiencies seem inexplicable except on physiological grounds. This is not to say that they are wholly explicable upon any grounds; but they are made reasonably clear by the aid of physiology. In ancient times, before any close connection between mind and brain was thought of, men believed that mental errancy was due to lethargy of will or to demoniacal possession; and all are familiar with the consequences of such views. Now, it is probable that the young teacher will be more or less strongly inclined toward this view, unless his natural tendencies are corrected by some study of the physiological basis of mental defect. Already this study, crude and imperfect as it still is, has illumined some of the dark spots in teaching, and made some children everywhere happier as well as more efficient.

Thus far I have spoken mainly of that phase of school work which relates to the values of subjects of instruction, and the modes of presenting them. But this, after all, is the least important aspect of the teacher's work. The ethical phase is of greater importance. And then, in order to make any headway in his business, the teacher must get his pupil into a positive attitude toward the situations he presents. It is not as though the pupil were unmotivated, waiting for the teacher to apply his stimulus. He may not respond at all when the teacher brings him into an arithmetical situation, for example; and so he gains no ground as a result of his experience, and he may even lose ground. Pupils often have a more or less permanently antagonistic attitude toward the reactions which the teacher desires

them to make, and, of course, this defeats the end of teaching. If the teacher cannot appeal to the spontaneous impulses of the pupil, he surely cannot teach him except at tremendous waste. Then the teacher's own personal expressions have much to do with the pupil's attitude toward the thing he teaches. If they arouse antipathy in the pupil, the battle is lost; whereas if they attract him, he will be likely to yield himself to the thing which the teacher presents, even though he is not natively inclined toward it. So it becomes of supreme consequence for the teacher to find out all that is known regarding the experiences which attract, and those which repel, children at different stages in their development. Something of this he will have without any study of the subject; but those who have added to what they have gained incidentally through some study in the spirit of modern evolutionary thought have testified that their study has proved of genuine service. And then consider what is required for the efficient government of the school. What tendencies do pupils of different ages possess which can be utilized in establishing and preserving the school as a social unit? What tendencies do they possess which militate against such organization, and how may these tendencies be transformed or combated? It will be granted that no teacher can achieve success who cannot give a more or less satisfactory answer to these questions, if not in formal statement, then at least in instinctive action.

Without doubt some teachers have been reared under such happy circumstances that they have unconsciously acquired an understanding of the way in which a child will acquire a knowledge of his fellows and a disposition to live in peace with them. One sometimes sees mothers who appear to have instinctive knowledge of these matters, and who are most efficient in their instruction. But, on the other hand, the majority of mothers, as of teachers, are greatly lacking in this respect. Spencer has in an effective way called attention to the shortcomings of the average mother and teacher when it comes to the moral training of the young. And he argues that some study of the natural tendencies of children would be of supreme value to all who had them in charge. If the teacher were familiar with the evo-

lution of social and ethical sentiment in the race, he would perhaps understand in a way the method of social and moral development in the child. He would know how to interpret actions of the individual that had a social or ethical bearing, and he would be capable of aiding him in choosing the straight and narrow path. But the detailed history of social and ethical evolution in the race is not at hand; and what the teacher needs then is to study ethical and social development in the individual so far as it is now known.

Here, perhaps, more than anywhere else there is a demand for a study of the natural tendencies of the individual, and the effect of varied educational forces upon these tendencies.

SCIENCE, GEOGRAPHY, AND MATHEMATICS.[1]

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THE time is short, and I shall have to be as brief as possible in my remarks.

There are a few suggestions that come to my mind which possibly may be interesting, perhaps helpful, to some of you in regard to the teaching of arithmetic.

I think we often make a mistake in teaching arithmetic, in not distinguishing between the kinds of processes that we are dealing with, and it may be profitable to discuss for a moment what some of these processes are.

There are, in the first place, the number-processes, and many people assume that these are the only ones that we deal with in arithmetic; but arithmetic is broader than number. Let us see what these processes are. They are the four fundamental "rules," as we call them — square root, cube root, and arithmetical and geometrical series; not all of which we should teach in the elementary schools. I cannot this moment think of any other mathematical process in arithmetic, unless you regard the application of the four fundamental rules to fractions as new mathematical processes, as I would not.

Besides these number-processes in arithmetic there is the language of numbers to be taught. All figure work is language work except in so far as it involves the number-processes. The teaching of figures, then, is language work. The Arabic notation is an arbitrary and technical language, very useful indeed, and is an effective means of handling numbers; but nevertheless it is language. Now, as a pedagogical point, we must bear in mind that the methods of teaching language are quite different from the methods of developing a thought-process. You develop a thought-process by leading the pupil to see the facts, and then to analyze

[1] Discussion of President DAVID FELMLEY'S paper on "The Teaching of Mathematics," at the dedication exercises of the School of Education, The University of Chicago, May 13, 1904.

them and draw his own conclusions. It is a process of development pure and simple, and in the development of that thought-process good pedagogy requires that we do not tell the pupil anything, but lead him to see the facts, to analyze them, and to draw his own conclusions.

When you come to language you deal with an arbitrary thing. That you call a cat a cat, and not a dog or something else, is purely arbitrary. To you and me words are not purely arbitrary, because we know the rudiments of philology; but to children they are absolutely so.

When you deal with figures you deal with language, *i. e.*, with the arbitrary. The figure 5 is a purely arbitrary symbol to the child. The Romans used one kind of symbol; the Hindus another, which we have adopted; the Greeks another; and besides these the words for five in the various languages may be used to represent the same thing. A great many teachers imagine that these symbols are actual numbers; that the figure 5, for example, is the abstract number five. They mistake figures for abstract numbers. If the figure 5 is the abstract number five, the word "five" is the abstract number five also, and the word "cat" is an abstract of cat. Abstract ideas cannot be thought except in connection with words, but words are not identical with abstract ideas.

While a thought-process must be developed, and nothing must be told to the pupil except facts where, as in history, he cannot actually observe them, in teaching language you must absolutely tell all, because all is arbitrary; so that at the beginning the process is a question of information, next a question of association of symbol with idea, and thirdly a question of drill. When you have these three things combined and have enlisted the pupil's interest, you have good language-teaching.

These characteristics of good language-teaching are not the characteristics of teaching which aims to develop a thought-process. We must distinguish very sharply between the two. Even the best teachers I know occasionally go wrong in this respect, and teach thought-processes in arithmetic as if they were language lessons.

What part of arithmetic, then, is language work and ought to be taught by the methods appropriate to the teaching of language, in distinction from those to be employed in the development of a mathematical thought-process?

In the first place, the Arabic notation is to be taught as language. In the second place, all the figure work in fractions. A fraction is a part of a thing, and our rules for fractions are not based on real fractions, but on the technical language of fractions. A real fraction, like half a bushel of apples or half an hour, has neither a numerator nor a denominator. These distinctions, on which our rules are based, are applied only to the technical language of fractions. If we should discard the Arabic notation and adopt the Roman, all our rules for fractions would become inapplicable. These rules are of great practical value, but we must recognize the fact that they are based on one arithmetical notation.

In the third place, when you teach decimals you are teaching, of course, simply a certain type of vulgar fractions having multiples of ten for a denominator, so there is absolutely nothing new there but the language. Now, what does that mean, pedagogically? It means that when you come to decimals you are teaching a language lesson, and you ought to teach it by the method by which you would teach French or German, or any other language, and not emphasize the mathematical processes involved, because these the child already knows. It is a question of simply telling him how a decimal is formed, showing him the identity between decimal and common fractions, making the association firm and strong between the decimal language and the ideas, and drilling upon it until he can think readily in this new technical language.

Not to go any farther into details, all technical terms in arithmetic are language. There is, therefore, a large part of arithmetic which is nothing but language, that must be taught by the method of teaching language. When you teach a language lesson in arithmetic like decimals as if it involved new number-processes, you attempt to teach the child what he knows by means of a language which he does not know. The emphasis of the teaching must be laid on the new language, else there is waste.

To pass on: Are there any other topics in arithmetic differing essentially in character from number-processes on the one hand, and from language on the other? Take a problem like this: "If one man can do a piece of work in three days, and another man in four days, how long will it take both of them to do it, working together?" What is the function of such a problem? It seems to me its function is to train the child to see conditions. A similar problem is that of the two boats: "Two boats start at the same place; one sails up the river, another down the river; the current is so many miles an hour; how far apart will they be at the end of so many hours?" What is the function of such a problem? It is to train the mind to picture conditions and reason upon them. Unless you see one boat go up and the other down the river, and keep in mind the velocity of the current, you cannot possibly solve it. The mathematical processes involved are simply the four fundamental rules already familiar to the pupil. Now, unless you teach such a problem by actually showing the conditions, you miss the point to be taught. If you try to work toward a rule and to show that you add the results when the boats go in opposite directions, and subtract if they go in the same direction, you miss all the value of such a problem. There is therefore a topic — formerly called "analysis" — which presents neither new number-processes nor new technical language, whose function it is to develop the power of analysis, and that is one of the important functions of arithmetic. What is the new element which is involved in the various topics which come under what we call "commercial arithmetic"? Take "interest," for example — what new element is involved upon which the teaching must lay the emphasis? Not a mathematical process, because the subject involves only the four fundamental rules. There is a little technical language which must be made familiar to the pupil. What is the new element to be taught? It is the nature of the business transaction which makes the paying of interest a profitable thing. The aim should be to lead the class to imagine circumstances or conditions under which one of them could borrow $100 or $200, keep it for a year or so, and then pay back the sum with 6 per cent. interest and yet make money.

When we take bank discount, what is there specially to be taught? Not mathematics; for there are only the four fundamental rules involved in it. What is the thing to be taught? It is the business operation — the function of a bank as a money-lending institution, and the method of calculating the interest on a loan. Problems should be solved, not for the purpose of securing expertness, but for the purpose of making clear the nature of the business transaction involved in borrowing money at a bank.

When you come to "stocks and bonds," what is the new element to be taught? Again there is no number or mathematical process involved which the children do not know. These topics present a little technical language that is unfamiliar and must be taught, but the burden of the teaching must be to make clear to the class the conditions in industrial and commercial life which make stocks and bonds necessary. It means that the general nature of corporations must be made clear to the class, the nature of stocks and of bonds, the difference between dividends and interest on bonds, the relative safety of stocks and bonds as investments, and the relation between low rate of interest and safety of investment. The fundamental ideas involved in all this can readily be grasped by grammar-school pupils of the upper grades. Little emphasis should be laid on the solving of problems except for the purposes of making clear and impressing the instruction on these various subtopics. "Stocks and bonds" taught in this way have a high practical value for every child; taught as topics in mathematics, with the emphasis on rules and the solution of problems, they are not worthy a place in the curriculum. There is a moral value in teaching these topics as suggested. If in the grammar schools of this country, in the two higher grades, we should impress upon the minds of children the relative degree of safety of stocks and bonds, by making them see clearly the nature of both and their difference, and if we should impress upon them the facts that the higher the rate of interest on bonds, the less safe they are, and that there is also some relation between dividends on stocks and safety; that there are plenty of millionaires throughout the country who are buying up all the stocks and all the bonds which pay a high rate of interest, and are at the same time safe, and that there-

fore those which pay a high rate of interest and which are glowingly advertised for sale are not safe investments, could the mining sharks in the West and in Boston and New York have fleeced the teachers and working people, as they have within the last two or three years, throughout the whole country, by selling them millions of dollars of worthless stocks?

THE SELECTION OF SCHOOL SONGS.

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THAT music has high value as a school pursuit will hardly be questioned by wide-awake and cultivated teachers. Nor can they fail to remark that this value depends in part on *what* is sung and *how* it is sung. It is with the former point alone that we are here concerned; we must leave undiscussed even the nature of this value — æsthetic, moral, intellectual, and hygienic: for song has a complex effect on the personality.

The selection of songs for school use must be made in view of certain principles, and their discovery is one of the most important problems of musical pedagogy. This problem has but recently received the attention due it from educators and publishers. It needs all the musical and pedagogical ability that can be brought to bear upon it; for, while it is easy to benefit the children in some respects by almost any class of songs, it is also easy to do them injury, as the effects of song are manifold. In fact the practical teacher's sins of commission or of omission in this matter are frequent enough.

When one comes to inquire what the criteria of such selection are, two complementary principles must appear as centrally important. These principles involve a dual conformity: on the one hand, to the actual child of the present; on the other, to the adult of the future, now potential in the child. In other words, one must take account of the child's powers, interests, and needs; yet these must be viewed as dynamic rather than static, and as bringing the child into an indefinite, though real, relation to a standard of taste shared with the adult. Though the child has a nature and lives in a world of his own, different from the nature and world of the adult, still the child-world grows into the adult-world and from the first constitutes a part of the latter. Laws, conventions, and ideals which govern adults must therefore have some, though a much less penetrating, hold upon children. The

strict severance, as well as the complete identification, of these two worlds, is a pedagogical extreme. We fail of our duty if we do not consider the child's duty as well as his pleasure; we fail in good taste if we do not lead the child to exercise good taste. The whole idea of education is to develop the future of the individual out of his present, and not to leave him completely satisfied with the present.

Those songs are most beneficial whose interest is most universally shared and whose effects are permanent — songs that appeal alike to child and adult, and unite rather than sever them; songs which the man will recall with pleasure from childhood's days, because they do not clash with his matured interests and tastes. Hence occasional songs, moralizing songs, and songs devoted wholly to school exercises are of but secondary, if any, value; while under most conditions of school work a harmful effect may be traced to cheap, characterless, inartistic music, whether it be weak or quite degrading. The songs to be chosen then are, first, the folk-song, the spontaneous production of some obscure representative of the people; and, second, the artistic or classic song as composed for children, the studied work of trained musicianship. The songs to be avoided are the trash heard in the vaudeville or on the street, and too often in the Sunday school or gospel service — songs popular with the masses, but never long-lived; songs of broad-spread influence, but lacking depth and character.

Melody, rhythm, and verse must be judged in relation both to the pupil's needs and powers and to the standard of taste recognized by musical people. The child's perceptive and vocal powers, powers of appreciation and expression, and stage of intellectual and emotional development are all to be considered. Children's songs must be sane, though idealistic; they must conform to hygienic laws, recognizing the limitations and immaturity of the child's vocal apparatus, and maintaining a balance between over- and under-stimulation of the emotions, neglecting or restraining some interests while leading others to a rich development.

Melodies should be adapted to the child's voice as to both

their intervals and their compass. While revealing great individual differences in children, investigations show that at six years of age their power to discriminate tones is less keen than after three years of practice, though semi-tones are usually noted as different. But as sensori-motor co-ordinations are still crude and inaccurate, the power to reproduce or imitate either single tones or intervals falls behind the power to recognize and to discriminate. The average range of the child's natural singing voice is about an octave, running from f to f^1, and is two or three tones higher than that of untrained adults. In selecting school songs, one must not forget that there is more danger of forcing the pupils' voices on the low pitches than on the high. This statement accords with the observation and practice of the best supervisors of today.

The melodies of the earliest songs should be simple rather than complex. This means that they should involve such intervals as are easiest to recognize, appreciate, and reproduce. According to recent æsthetic theory, a simple melody is one in which every tone is directly, melodiously related to every other, as in the bugle-call; complex melody is the result of the interweaving of two melodies based on different tonics in such manner that adjacent tones are not always melodiously related. When the fifth, the third, and the octave are employed in song, then the voice and musical sense may move along lines of least resistance. The simplest songs consist of the elements of a perfect chord, as in arpeggios and bugle-calls. Later there should be added other tones of the five-toned scale, and finally those of the diatonic major scale. Chromatic steps, accidentals, modulations to a second tonic, the finer and more unusual intervals, as involving complex melody and also on physiological grounds, should be elements of only the more advanced songs.

It is true that children differ vastly in musical ability, so that some would be able to cope successfully at six or eight with songs beyond the average child of twelve. Thus inherited predispositions plus musical training and environment are, perhaps more than the physiological peculiarities characteristic of a given age, facts which must determine the kind of melody required. Again,

some children have unusual ability to follow and to imitate in any field, or especially in music, though they may have little power of independence or appreciation. But the imitative tendency must not be overworked; such songs must be employed from the start as make possible a pleasant transition from rote-singing to notation and sight-reading. Too much of the young child's imitation of difficult melodies is parrot-like and mechanical, without understanding or warmth of feeling. The intelligent appreciation of complex music needs to be founded on a hearty love of the simplest melodies.

The earliest rhythms employed should be graceful, marked, simple, and regular, such as the child can readily beat out. Regular rhythm involves exact repetition at regular intervals. In irregular rhythm certain complexities are introduced in one phrase which have not their counterpart in any similar phrases. Complex music abounds in such irregular rhythms, which must be carefully distinguished from irregular tempo. Children, like many primitive peoples, naturally demand music bright in tempo, allegro rather than adagio; but within this tempo allegro there cannot be, for music at once simple and effective, much complexity of rhythmic subdivisions.

The reason for these rules is found in the nature of the child's mind: he is less deliberative and more impulsive than the average adult; less capable of sustained attention, of analyzing a presented tonal series into parts differing in their dynamic character, and again of uniting parts thus formed into a unity which means for him one beat or one measure. His memory for and his discrimination of dynamic and temporal values are yet inaccurate; he has not learned easily to substitute four short beats for one long one, or to subordinate two unstressed beats to one stressed beat and feel the accented tone as the symbol of the whole measure. In other words, his rhythmic experience is undeveloped, his rhythmic apperceptive system uncomplicated; what he is to appreciate must be forced upon him by a strong stimulus, and not too much shall be thus presented. Songs must be so selected as to aid in developing the child's vague feeling for rhythm into a definite and analytic compre-

hension of it and a ready response to weaker rhythmic stimulations. The rhythmic interest is a most prominent feature in all early and primitive music; only through developing and satisfying it can attention be weaned from rhythm and turned more to melody and thought. Finally, the two-rhythm should precede the three-rhythm. The former is the simpler and pleasanter to the child; it corresponds to such bodily rhythms as those of the pulse and walking, with which he first becomes familiar.

The verse should be examined as to its artistic worth and its intellectual and emotional content. Its ideas should not transcend the pupil's understanding completely; it must at least be suggestive of vital experience and meaning to him, though his meaning may not be ours. It should arouse such emotions as conduce to a normal and wholesome human development. It is through the medium of the verse that the song study may be correlated with other school pursuits, such as nature-study, history, literature, and moral-religious training. Its connection with games, gymnastics, and dancing is brought about through the element of rhythm also. As in the modern music-drama song is closely related to the other fine arts, so in the school it may be correlated with any of the other arts, thus borrowing and lending suggestive influence and impressiveness. By a judicious use of this principle of correlation song may gain in interest, power, and vital force. For the young, at least, music should be closely related to life, however much later specialization and maturity of æsthetic standards may tend to isolate it as a unique art, dwelling in a world of its own.

It is not easy to secure all these good qualities conbined, and if one had to choose between the music and the verse, excellence in the former is the more important. If the verse be not pernicious, but too difficult to comprehend, or lacking in beauty and poetic charm, it may still be part of a powerful song. Fine melody tends to obscure the defects of verse and idea; it forgives rather than covers a multitude of sins. The *musical* aim of song dare not be sacrificed. Much of the empty or trashy school music actually in use is due to an attempt to get music

which, with the words, can arouse definite namable emotions; that is, the expressive function of music is exalted at the expense of its power to impress through beautiful melody. The child of six has the rudiments of musical taste, and this should be developed through simple but real melody. So far as musical training goes, attempts at correlation are disastrous unless a high standard of melodic values be maintained. Other trash, such as is too common in many religious circles, is due to an ignorant attempt to cater to childish or popular tastes. The result is a bad combination of verse and music, or a mere parody of religious emotion. All beauty may be lost in the effort to secure a "catchy" rhythm or a sentimental melody. It is not true that emotion must be aroused at all costs; rather must it be directed and disciplined by pure art forms.

The trouble with cheap popular songs, whether those of the street, the vaudeville and opera, or the Sunday school, is that they lack strong, unique character. They are not original, but cast in a common mold. As they are all much alike in rhythmic and melodic pattern, sensuous and stimulating rather than intellectual, they demand little effort of attention; past experience aids one to give a ready and complete response; and, easily retained in memory, they are on the lips of everyone when musical scores or performances of worthier music are not at hand. The ease with which many gospel hymns and popular religious solos can and are adapted as dance music argues either to the religious character of the modern dance, or the vulgar, unreligious character of these songs. The verses of the popular song usually agree in character with the music; they are nonsensical, maudlin, or vulgar.

Some readers may feel that our standard is too puristic. Adults who have had good musical training can hear some such stuff without great damage. They either find it unpleasant, or relegate it to its proper place among their mere relaxations, which might just as well be nobler and fuller of delight if they could select a more artistic environment. But to bring children up on this material, to give it any place in the school, prevents the formation of any pure standards of taste in them, and materi-

ally obstructs the advance of music in the nation. They will hear enough of it outside school; within school they must be protected from contact with low or impure forms of the art. Even the principle of association must be regarded: songs otherwise good, but which have some unfortunate likeness with street songs, and through melody, rhythm, or verse would patently suggest or recall the popular favorites — such songs may well be avoided. The less imitable and imitative a song is the better it is. Some teachers would banish all love-songs from the school repertoire in a large city because they tend to suggest the treatment given this theme on the street or in the Sunday newspaper. But such a principle can be carried too far; we should not forget that most individuals (though children to a less degree than adults) are capable of taking different attitudes toward the same object; they may regard it in a serious or humorous way, or from a religious or a secular standpoint.

It is by no means heavy music, nor alone that of serious, dignified character, which belongs in the school. Great variety is needed in view of the differing temperaments of the pupils. All need the spice of occasional nonsense; only let it be sensible in music and hold such a place there as does *Alice in Wonderland* in literature — a delight to old and young, fool and philosopher. Humorous songs, such as those of Taubert, can be found which are refined, delicate, and classic. Light music should have a large place in the child's life. The rhythms which in the vulgar song are so marked and prominent may be toned down and overshadowed by melody and harmony of fine character; these now claim more attention, and the response is no longer called forth mainly by the rhythmic, sensuous, physical aspect of the music. There is good, classic dance music. While different rhythms have various effects, to lull or stimulate, it may be doubted whether any rhythm is bad in itself. Whether one rhythm shall incite a person to dance the two-step, or to march with military fervor, or to listen merely, depends on its usual association in the social group, and on the temperament and experience of the hearer; whether another rhythm shall lull one to sleep, or to languid, sensuous intoxication by imagery worthy

or unworthy, depends on the same conditions. "Rag-time" is to be avoided because of its vulgar origin and associations. The two-step rhythm, under social conditions now commonly present, may be degrading to taste or morals if used in excess; it first arouses one's animal spirits, putting vitality into the motor play of the body, and subduing all to its own regular form; but this natural vivacity, aroused and augmented by the rhythmic stimulus, may throw away its restraint and become chaotic, anarchic. Artistic form first arouses the impulse, but impulse later transcends and spurns this form.

Whether or not it is best to adapt standard songs to children's use is a nice question. If a great work of art, the song must express one sentiment which all its elements help to maintain. In that case any alteration may diminish the significant proportion of its parts. While art as a whole is fluent and progressive, ever becoming embodied in new forms, its individual creations may be regarded as fixed and finished. There is little reason, however, for putting music on a different footing from the other arts. Myths, fairy-tales, and great literary creations have been adapted more or less successfully for children. The tales of Lamb and Hawthorne, the expurgated *Gulliver* and *Arabian Nights*, are justified. Primary reading-books do well to owe their allegiance, through adaptations, to the rich stores of ancient story. To arrange music written for orchestra or chorus for pianola or organ, and so multiply the opportunity for listening lessons, in spite of the loss entailed, has its pedagogic advantages.

From the same point of view we would say that if the words of a good song are unfit for school use, they may be slightly changed, or new verses selected provided these accord with the mood inherent in the music. Translations of foreign songs are justified because inevitable, unless we confine ourselves to the songs of English-speaking peoples. The melodies of old songs are often very simple, with the exception of a few connective tones whose melodic relations are less intimate or which introduce temporary modulations. Such tones may be regarded as beautifying ornaments, without which the song assumes a plainer

character, though unmarred in its essential beauty. These tones might be slighted, omitted, or changed to the pitch of an adjacent tone in many cases, thus simplifying the melody. Some songs may be utilized by omitting a second theme or development when only the first is simple enough.

It must be added that there is, in fact, too much rather than too little adaptation in music collections, and that most of it is controlled neither by pedagogical knowledge nor by musical taste. Most editors, teachers, and supervisors in the schools should beware of this expedient, which is not the function appertaining to novices, but to skilled musicians. Great composers have used folk-songs as their material freely; and occasionally our practical teachers and editors have the skill and artistic conscience fitting them to adapt as well as to select music for school use. Finally, the principle of association must not be unduly magnified at this point: that the connection between given music and words is an old familiar one is not sufficient reason for censuring any change. Other beautiful arrangements may be found. Our æsthetic preferences are to be justified by principles; the mere fact of fondness for a particular object is not its own justification.

Those songs are emotionally wholesome which stimulate the pupil's love of nature, home, God, and fatherland. But the development of an exclusive patriotism which feeds on ill-will toward other nations is no more desirable than that of a fanatical or too sectarian religion. This is especially true in our country to whose people's life, traditions, and art so many existing nations have contributed. Our schools represent a mixed race; hence not a narrow patriotism, but a broad sympathy with a variety of national and folk-songs, is demanded. It does not devolve upon educators to transform every grand foreign song until it breathes a distinctively American spirit. Were we to favor German classic and folk music, even at the expense of some of our own, we should be the better for it.

Special emphasis should be laid upon the value of the old music for school use: old hymns, ballads, and lyrics, old national airs and folk-tunes, as well as the works of classical composers.

The school should be first of all a conservative force in this field. While song composition by pupils has the decided advantage of fostering the creative spirit and intensifying their interest in music, to make unstinted use of these productions as song material would be detrimental to musical taste. All beginners need the richest possible experience of the best that the art affords. Folk-songs are of immense value because they spring from the heart of the people and express, not a private, but a universal, feeling. They have stood the test of true popularity. To gain their inspiration is to get into closer touch with living humanity. Some think to find in these national songs a revelation of national characteristics. Certain it is that melody and words together may be very expressive, and thus form good historical material.

There can hardly be a valid objection to the general school use of folk-songs, unless it be the frequency with which these express the passion of love. But granting this, still among the large remnant which are not love-songs many may be useful. Distinctions also are to be drawn among love-songs. The erotic and excitable are to be avoided; but there is no harm — indeed there may be much good — to the child in songs that are pure and simple and express those feelings which are common to friendship, family affection, and sexual love. To those ballads which are somber in tone and full of emotional contrasts, of passion, jealousy, fidelity and infidelity, are to be preferred such lyrics as are joyous, full of life, and more serene. A good love-song may well replace a bad street song in the child's repertoire.

There have been made a few empirical studies, which cannot be reviewed here, of children's preferences and interests in music. Such studies indicate the topic or type of the preferred songs, with particular reference to the verses and their dominant sentiment. They deal with masses of children, and obtain statistical results. The investigators are not always trained musicians, and the data they present are too often insufficient to determine whether, for example, the patriotic songs which boys like are worthy or cheap; they indicate only the general lines of interest, the kind of sentiment which music should appeal to. Or where

preference for particular songs is evidenced, we do not know whether this is to be traced more to the child's disposition or to the limitations or advantages of his experience and instruction. Hence such a study cannot indicate the merits of particular songs for school use; that is to be determined by our developed musical ideals as applied to what child-study teaches us of the types of children's interests for different ages and sexes. Sometimes the interests less frequently or strongly exhibited are the very ones needing special stimulation. Perhaps the greatest lesson such studies can teach us is the need for a variety of song material to satisfy the diversity of needs exhibited and to develop all these possibilities of a richer, more significant life.

TECHNIQUE IN ELEMENTARY MANUAL TRAINING.

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WITHOUT doubt there is no one stronger influence at work today upon educational methods than is brought together under the general and indefinite name "manual training." It is not strange that a visitor at the St. Louis educational exhibits should have a doubt, as far as visible evidence is concerned, as to the accomplishment of other school work than manual training.

Even admitting the truth of this visible evidence, the real educational significance can be shown only imperfectly in an exhibition, and as we individually feel the large part which "doing" plays in the progress of life, we see the real need for so large a representation in the school curriculum.

While it is no concern of the present moment to lay stress on the shortcomings of early attempts, we can truthfully express sincere thanks for even a Russian beginning. It is devoutly to be wished, however, that a term more expressive of present objectives than is commonly implied in "manual training" might steal into common usage.

It was not strange that we first gave tools to children who could use tools with a fair degree of success, for we have so large an appreciation of our "practical" methods of living, not alone without, but within school walls. So we must not wonder that, to start with, high schools received the benefits of construction work, if, indeed, such a term could be applied to the first work done.

The growth of manual training has taken place in a rather unnatural way, in thus taking root in the upper strata of school work, and finally coming to the blossoming stage at the very foundations of all school work.

Courses have been made over and handed down to lower grades, not unlike the manner in which small boys sometimes fall heir to the clothing of their larger brothers. Course after

course, even as suit after suit, is made to do for successive generations in the school world. In discussions among school workers we do not hear, or at least the writer does not hear, the problem attacked from the point of view of the elementary school itself. Perhaps it is not strange, since throughout all school work so unproportionate an amount of means and interest are centered in the superstructure. Without doubt there is an awakening in progress, which shall draw unto the first-graders more of their own.

Construction work under the name of manual training is already strongly intrenched in the elementary grades, but, so far as having a philosophic foundation is concerned, it has come to be more by a process of imitation of activities suited to higher grades than by a real need and true application of work suited to its own life. It must be clearly evident to one sympathetic with child-life that a set course of exercises does not reach the needs of a restless child whose chief concern is to gain some idea as to the meaning of the complex life about him. To be sure, there is a physical organism at work, but there is hardly enough center to it to be satisfied with, or even to get much good from, any form of activity which has for its purpose the accomplishment of results other than can come within the child's own experience and appreciation. We cannot tempt these small muscles into accurate work, or the semblance of accurate work, wholly without the worker's choice. Somewhere between that kind of school activity called "busy work" and a more rigid or set form of occupation lies the true manual training for elementary grades; and for practical application in the common run of schools, where dependence for execution has to be made upon the regular teacher of the grade, it seems that work of such a character is most readily adopted.

With the conditions of ordinary elementary grades, it seems almost needless to have in mind such a word as "technique," and it is to be doubted if we should, had the beginnings of manual training been freer from a severely practical or commercial bias.

Having in mind the boy of six or seven who is just beginning to emerge from his infant bondage, it is especially hard to see in

him any natural adaptability to occupations which would involve technical and mechanical processes, or that could even be implied as technical. So my argument is not so strong against as is it alert in running away "where no man pursueth."

Human sympathy founded in a desire for a healthful, robust physical machine would naturally help us to avoid such forms as would tend to the use of small muscles or the development of ideas not directly serviceable in the life of children.

If the term is forced upon us and we *must* be technical, then let us search thoroughly the conditions of child-life and make the endeavor to have our efforts count for the most in building up strong, powerful tendencies that shall come in good stead as life progresses.

Opportunities come to the teacher in elementary grades to give work which will call out the greatest amount of individuality regardless of process or the tools involved. There will always be the opportunity to call tools and materials by proper names, and even this little would accrue to no mean advantage by the time higher grades are reached.

Emphasis could well be laid on this one idea, but it should not be construed as an objection to take the place of work involving ideas of wholes or correct mental images, which are results quite sufficient at this time, and will turn out to be the best kind of seed planted for more technical results later on.

In order to give children of these lowest grades an opportunity to practice the right kind of technique, I should want a room for their own use, and equipment would grow as demands were made by the workers themselves. I have the fear that my room would hardly be recognizable as a shop, but it would be a place of all kinds of materials and a place in which all kinds of spontaneous ideas would have a chance to take such definite form as children would give. Evidently there would be but little need of dictation in a shop of this kind.

Two very strong personal experiences make me believe in giving to children of elementary grades more opportunity for individual expression than is their privilege in rooms where rows of seats and desks are the traditional forms of furniture. First, I

can bring back from boyhood days the memory of the great delight of happy times spent in ransacking the remote, dark corners of an old garret. To be found there were odd pieces of furniture, boxes, old clothing, and in fact all manner of traps and findings that go to fill one of these resourceful places. How keen was the delight in making old chairs do service as four-in-hands, and again these same chairs could stretch out into long trains of cars with no important feature missing. Old boxes and boards would at one time serve as a store, while at another they would become transformed into buildings and railroad stations.

Another object-lesson came to me in the neighborhood of a social settlement. The city had provided a playground; old buildings were removed, and in their stead came a smoothly covered cinder lot with a flag-pole and a few seats. Close by this so-called playground was one which the neighborhood inadvertently provided. Not a flag-pole was here, nor seats, but everything that a civilized people discards and casts upon a city dump. There were children here always; after school and during school one could see little groups of "workers" building such castles as fancy and old bricks can fashion. In fact, constructive play ran rampant, and everything immediately essential to vivid imagination was here. The mere absence of a few technical details made no difference in the construction of these "imitation" houses. What a golden opportunity to impress a social faithfulness to the "technique" of right living!

It is undoubtedly the place of the school to take a hand in giving to children opportunity to work off emotional enthusiasm, and it becomes more necessary for them to have this opportunity to give motor expression to this busy work which surrounds them, as cities become more crowded, and the act of living becomes confined to smaller spots; and, as I write this, it is impossible to refrain from the thoughts of those forlorn and ghostly places generally provided for play purposes in the basements of ordinary schools. What possibilities of usefulness even in the adaptation of the underground regions to the real play-needs of children!

In a general way I have tried to show the need of giving children in the elementary grades opportunity to give expression

of ideas in any kind of material readily accessible. By confining material and the person too closely we confine expression when the demand is for broad expression. As a matter of manual training, let us make special endeavor to widen the scope of activity, both indoors and more, if possible, outdoors, for elementary grades. I have been utterly unable to see any application of the idea of technique in these grades, as understood in the higher grades; that it is in the field of the manual-training worker to recognize as technical the formation of those elements of character that help us to become better workmen because of the ability better to control ourselves in the midst of other workers. Each period of child-development yields its own peculiar contribution to the complete art of living, and in the elementary grades it seems opportune to emphasize the technique of social responsibility. It is noticeable in schools where manual training of ordinary type is first introduced in the seventh and eighth grades that the children do not at first understand their suddenly acquired freedom. Consequently, if some idea of this social responsibility or social freedom can be gained in the elementary play-shop, we ought to have a child better able to handle himself and express himself in the technique of tool manipulation in the higher grades.

HAND-WORK IN THE ELEMENTARY SCHOOL.

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PERHAPS the most important problem that confronts the educational world of today is just what shall be taught in the elementary schools where the greatest number of our children are trained.

Up to the past few years the kindergarten has been the only natural school. Many of us have been under the impression that child-nature utterly changed upon entering the first grade; so the natural activities were promptly discontinued and the dreary, mechanical processes for the education of these young children as promptly begun, teachers in these primary grades teaching with infinite patience, many things the children would have found out for themselves a year or so later. But now the spirit of Froebel is penetrating this waste desert of the elementary school, and changes are coming into schools of every grade. So the kindergarten methods have won their places, and wood, chalk, clay, scissors, tools, etc., are in use to make young fingers deft.

These changes began at the top of our educational system and are fast working downward. All these new buildings which have appeared of late in all our thriving colleges and universities — these workrooms and laboratories — show that a liberal education means skill in getting and using knowledge; that wisdom comes from searching books and searching nature; that in the finest human natures the brain and the hand are in close league.

The future of hand-work or self-expression is the future of all elementary education. It may be called the entering wedge to the new American development.

Arnold has said: "Religion is morality touched with emotion." We might say that the kindergarten is activity touched with sentiment, but self-directed to be of educational value. Creation is said to be the highest activity of the mind; so the

child who is trained to create is trained to think, to explore all the questions of the past and the present. These single creations in the kindergarten and primary school, crude as they usually are, but expressing the individuality of the child who made them, mean opening the way into personal freedom, as self-expression is the essential element of liberty.

Froebel believed that the three primal race-occupations — weaving for clothing, planting for food, and building for shelter — were necessary for normal development. May we not make these occupations, and the activities connected with them, a basis through which we may bring the children to a better understanding of the other subjects contained in the school curriculum?

In this article I shall try to touch upon some of the vital questions which present themselves in the teaching of this hand-work in our public schools, where we are hampered by too many pupils for one teacher and an overcrowded course of study. As the present course of study is arranged in the average public school, it is impossible to do very much more than merely to teach some form of hand-work in each grade; but even in its isolated form it is sure to appeal to those most interested in such a way that later the educational value may be easily demonstrated.

But this hand-work can never be a thing in itself; it must be a part of the whole and every teacher must have something to do with it, as it is only when it fits into a general scheme that it becomes valuable and educational. Therefore I think the supervisors of primary work, drawing, and manual training, should plan a course of study for the elementary school. These three persons must then work together with the assistance and co-operation of the grade teachers, and I feel sure that the best results will follow.

It is impossible for us to do this all at once, or to fashion an iron-clad course of study; but it is the duty of every teacher to accept what is commonly called truth in modern pedagogy, and then each one must work out the scheme that will best fit his own particular field. I would suggest here that a plan for correlation of subjects be tried in one building, and the results carefully noted and demonstrated.

Another question of great importance is: Should boys and girls have the same kind of hand-work? Pedagogically speaking, I do not see any good reason why boys and girls should not all have the same kind of hand-work; but with the present course of study it seems advisable to give the children of the first four grades a variety of hand-work of the same kind for boys and girls — a variety that shall cover the range of young children's interest and bring them in contact with many materials and processes. The girls of the fifth and sixth grades may sew and do some work in designing and making baskets. The boys of the fifth and sixth grades also take the basketry-work and do the knife-work in thin woods. Some work in Venetian iron-work may also be brought in in these grades.

I do not consider the above work, as outlined for the boys of the fifth and sixth grades, sufficient to develop their resistive powers. I believe they can do much more, and that tool-work should be at least a part of their work in manual training. But here again the public-school problem faces us. The work in the first six grades is usually and necessarily done in the regular schoolroom. I look forward to the time when all our school buildings shall contain reasonably well-equipped shops and laboratories in which to teach these activities, as they are related to the course of study. Then our hand-work need not be confined to certain grades.

I am planning now to have the boys in the fifth and sixth grades make a simple equipment, such as benches, cabinets, etc.; and where the buildings have an extra room that may be used, we hope gradually to fit up a crude shop where the work of these grades may be done. The boys will learn many valuable lessons in fitting up these shops, and, besides learning that a great deal can be done with a simple equipment, when they get to the seventh- and eighth-grade shops, where a complete equipment is furnished because here more technique is essential, they will fully appreciate the value of the more elaborate equipment.

The girls of the seventh and eighth grades take domestic science.

If we could have more time and money for these grades, I

should strongly urge that boys and girls of these grades take both shop-work and domestic science; as in the interest of an all-around culture, as well as an intelligent understanding of the human body and its physical nourishment and development, it is so essential that the pupils of this age be given these forms of manual training.

In the wood-work of these grades, we have a fine opportunity to cultivate in these pupils a love for trees, woods, and furniture of different countries. Much of their history may consist of comparisons of these subjects.

Then, too, the principle of service may be brought in. Let the children make some article that mother and father will use and value. The sentiment thus interwoven is not an idle one. It is said that all the great and beautiful things made and done in the world — the great pictures, symphonies, poems, stories, buildings that have needed the human spirit — were done as a result of sentiment — the sentiment of hope and love.

Visitors to the Palace of Education and Social Economy at the World's Fair may be interested in studying the exhibits of a few schools, where it seemed to me correlation of subjects had been emphasized. Papers containing illustrated work in school gardening and nature-study done in the Hyannis State Normal School, in Massachussetts, were most interesting. A scheme for elementary geography, nature-study, and literature, based upon some related activities, as illustrated and done by the children of the public schools of Salt Lake City, Utah, was very suggestive and showed excellent results. A historical rug, designed, planned, and woven by the students of the Utah State Normal School, at Salt Lake City, representing the history of the development of the state, and made for a present for the president of the school, told the story of the unified plan for the correlation of subjects as being worked out by these progressive people with admirable results.

I found the written work of the public schools of St. Louis quite in harmony with the idea of correlation, although they have not as yet attempted to emphasize the relation of their constructive work to the other subjects in their curriculum. The

constructive work of the kindergartens of Louisville, Ky., seemed to me the most practical and educational I have seen.

The correlation of art and manual training was very marked in the high-school exhibits of St. Paul and Minneapolis, some beautiful and artistic work being shown.

I believe many cities are alive to the fact that related work is necessary; but just how it shall be done has not as yet been proved to their satisfaction.

To do much toward the reconstruction of our course of study, we shall need to omit two classes of study altogether to make room for better things. We must omit, first, those subjects that are abstract; and, secondly, those that are involved in other subjects. We should then have left the speaking, reading, writing of English, and of either French or German, science and free-hand drawing, physical culture, including sports of all kinds, music and dramatic expression. Basing all these on the related activities, it seems to me we shall be able to produce vigorous bodies and warm hearts, as well as informed minds.

Our country is waking up to the necessity of a change in our methods of instruction in public schools. Let us as teachers be the leaders in the movement which shall give us larger school buildings, ampler playgrounds, summer-vacation schools, a gymnasium in every school building, less pupils for one teacher, salaries that shall attract the best talent our colleges and universities afford — teachers whose inspiration is the love of little children and interest in their development into all-around good citizens — the object of all education.

CORRELATION AND TECHNICAL SEQUENCE.

ELIZABETH EUPHROSYNE LANGLEY,
THE UNIVERSITY OF CHICAGO SCHOOL OF EDUCATION.

Is technical sequence interfered with by the practical application of the principles of correlation? This is a question often asked, and usually with the implication that correlation and technical sequence are in their nature opposed.

The term "correlation" has come by misuse to imply so much of sentimentality and personal idiosyncrasy that it can be used only guardedly and with full definition. To the untrained teacher grasping after new ideas the word "correlation" seems to mean a haphazard throwing together of ideas presumably related — a method whereby the work of each day determines the work of the next day, with no reference to any larger plan. The uninitiated teacher who, with a few hours at her disposal, endeavors to gain from a school of so-called advanced pedagogical ideas some practical conception of the magical word "correlation," watches teacher and pupil, and wonders by what necromancy or inside information or expert mind-reading the teacher knows just the psychical moment in the child's mind when reading should give way to clay-modeling, and clay-modeling, in its turn, to mathematics. I am quite sure that the only definite ideas this visitor takes away are, that correlation is only a happy alternation of mental and manual labor, and that the child's will rules.

Correlation cannot, however, be so lightly dismissed. True correlation is an interrelation of subject-matter from the standpoint of education. It endeavors to find out the essential kinship of certain portions of the subject-matter in the curriculum, but the chief attention is focused on the child, so that these related materials may be properly adjusted to the various periods of his development. The scheme is planned to keep pace with his growing powers, and it allows great freedom and flexibility to meet individual needs. True correlation thinks of the child as the center, and endeavors to bring him into touch with the greatest

possible number of the forces that work about him. The endeavor is to make the child alert to these forces, and, so far as may be, himself to manipulate some of them. Correlation is not, then, a method of teaching by inspiration, a method depending on the happy instinct of the moment, but it is an ordered scheme. It implies definite, coherent, systematic, well-knit plans; in a word, it means organization.

"Technique" is only another name for the skill requisite to produce workmanlike results. Sequence of technique in woodworking is the arrangement of articles to be made in such an order that any given process shall succeed processes of less difficulty. Technique as an aim and technical sequence as a demand find their best illustration in the Russian system which puts its stress on processes as such rather than on completed articles. According to the Russian ideal, good technique is its own reward for being. The acquirement of technique is an isolated thing; it considers itself alone; its aim is single. If fine adjustment of tool to material results in an excellent series of exercises, its purpose is attained. Its plans are definite and unvarying.

Now, it would seem that a scheme so rigid and inflexible in its methods, so single and dominant in its aim, could not be perfectly conserved, and yet fit into a scheme so pliant and so complex and so sensitive to varying needs as is correlation. But the whole statement is based on a false assumption, namely, that only by a rigid attention to technique for its own sake can a high degree of technical skill be obtained. Experience, however, shows that only now and then is there a child that can be roused to do the best that is in him by the appeal of pure technique. Such an appeal is intellectual in its nature and belongs to a later stage of development. The child's best workmanship, even when judged by purely technical tests of excellence, follows in the line of his keenest interest. If a task is set for a boy by the teacher, from the point of view of the teacher, it becomes to the boy merely an exercise, and therefore a bore. To take the simplest possible illustration: a child may be taught to saw and plane and chisel till he knows how to saw and plane and chisel, and it can all be done on pieces of wood that are thrown away when the exercises are

learned. But he will learn these operations, not only with more happiness by the way, but also more quickly and accurately, if he is compelled to do the tool-work well in order to complete a sled or a house, or any article in which he has particular delight and which will be a permanent possession. Even a series of models planned by the teacher and imitated by the child is too rigid and artificial. The child *imitates* rather than *creates,* and this fact alone greatly lessens the educational efficiency of the system. It is unbelievable that the interest of a body of children should follow a series of models as it would follow articles of individual selection. For example, when it comes to making rulers, two children may have some especial interest in that model, but to the rest of the class it is an exercise. And I must insist that the quickest road to good workmanship is the road of interest.

One caution is undoubtedly needed here. Rousing the child's interest by giving him freedom of selection in the article to be made does not imply absolute lack of direction. It is the province of the teacher to see that whatever the child chooses to make he makes well. Hasty, shabby, dishonest work is non-educational, and should not be allowed. But, as a rule, when the child once feels, not only the freedom, but the responsibility, of his choice, he puts his best and most eager and persistent effort into it, and secures the best results possible to him.

What has so far been said is that excellence of technique follows most easily and naturally and certainly along the path of interest. Now, no scheme of education has been devised whereby the interest on the part of the children is so general, so sustained, and so fruitful as in correlation. The idea of correlation is not that the child is preparing for life, but that he *is* living, and the aim is to surround him with natural conditions, and then watch and direct him as he develops under these conditions. The way in which correlation stimulates interest in the special departments of hand-work may be illustrated by a single example drawn from the work of the first grade.

The development of the home was the center of thought and work for one year. The special teacher of wood-work planned with the children and the grade teacher the kind of house which

should be made. The children decided upon its shape and approximate size. All of the time allowed for special work was spent in the wood-working department until the house was finally put together. Then the children wished to furnish it. The making of designs for wall paper, for rugs, and for furniture came next in order. Here was the need for drawing, and that subject now occupied all the periods set apart for special work. But the drawing teacher worked in full co-operation with the grade teacher and with the special teachers who would hereafter aid in carrying out the plans. In the making of these designs full opportunity was given for inventiveness in form and color. The only suggestions given the children came through samples of artistic wall paper hung about the grade room, without comment. When the designs were ready, the children began the weaving of rugs in the various materials of their individual choice, and the painting of their wall paper. Later they returned to the wood-working room for the construction of their furniture.[1] Thus the time set apart for special work was divided among three departments — drawing, wood-working, and weaving — but all under the control of the central idea emanating from the grade room. The interest was cumulative. Each new day added to the interest of the day before. The children wove rugs, painted wall paper, built houses, and made furniture with unflagging zeal, surprising energy, and with results of workmanship amazing for children six or seven years of age. Each completed house, neatly painted on the outside, with stairs and an attic, and a full complement of doors and windows, with stained floors and flowered walls, with rugs and curtains, with chairs, tables, and settles, meant more to its owner, its *maker,* than any house that could belong to him in later life. It was a concrete embodiment of his thinking and doing for a year. He had thought of something, he had made it, he could look at it, he could keep it. In the process of making, his fund of knowledge had been largely increased, his powers of observation quickened, and, further, his skill in hand-work in three directions had been, by the way and incidentally, as it were,

[1] The plan had been for the children to make this furniture in cardboard, but they objected, saying they wanted wood because that would last.

but most really, increased more than it could have been had the whole attention been put upon the hand-work apart from the correlated idea.

What I have tried to say is that correlation in the elementary school does not only not interfere with technique, but that through the avenues of interest it results in a technique of superior quality. And I have meant to imply that correlation is a larger thing than technique, and that it also has many features of great educational value not thought of in any system where technique is pursued for its own sake.

DESCRIPTION OF THE PLAYHOUSE MADE BY FIRST-GRADE CHILDREN IN THE FRANCIS W. PARKER SCHOOL.

ROSE PHILLIPS AND GRACE DEWEY,
TEACHERS.

THE work in history, manual training, and applied arts, based on the children's interest and experience in the home and its

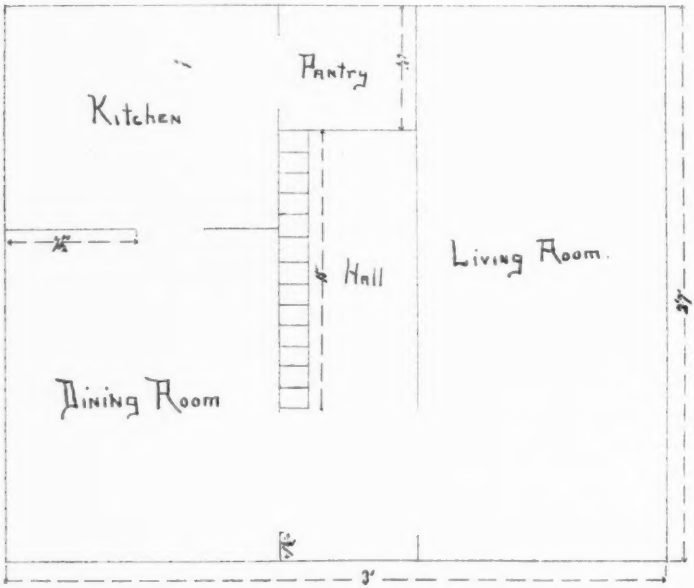
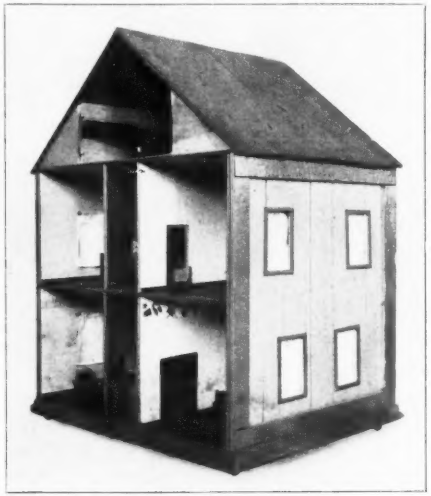


FIG. 1.—Plan of first floor.

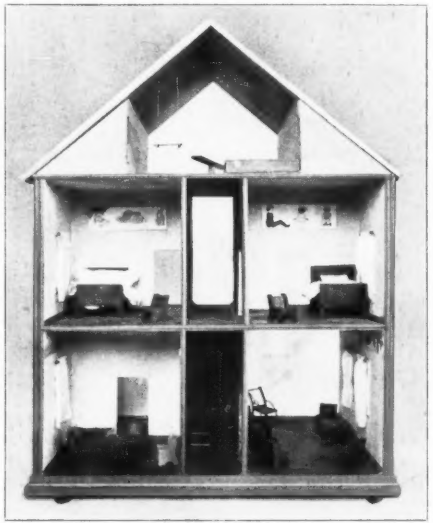
activities, centered around the making and furnishing of a doll-house for the kindergarten.

During the process of construction frequent comparisons were made with the homes of the children, and the simple homes of primitive peoples.

Attention to the arrangement of rooms in the school building



A



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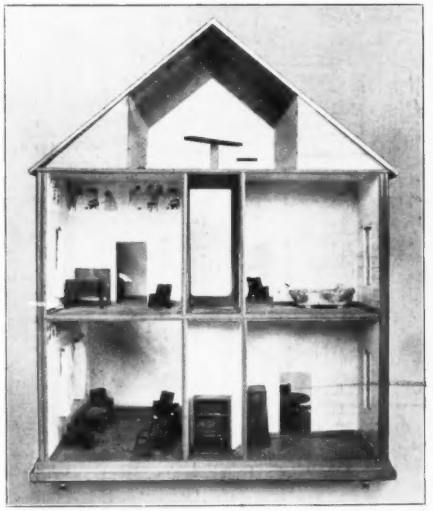


C.

enabled the children to draw plans of one floor. Each drew also a plan of one floor in his own home. Individual plans for the dollhouse were then made, which were very unpractical in the number and arrangement of rooms. Criticism by the children and teachers led finally to the simple plan illustrated in Figs. 1 and 2.

A dry-goods box 3′ long, 2′ 7″ wide, and 2′ 8″ high was

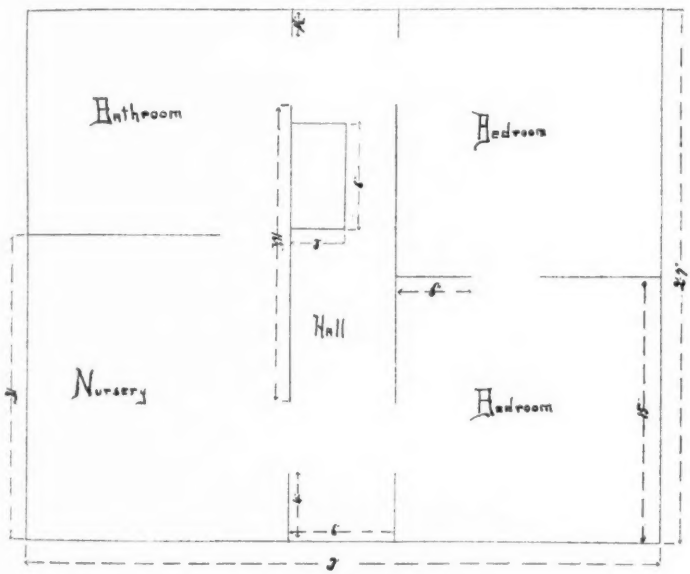


FIG. 2.—Plan of second floor.

secured for the outside construction (see Plate II, A). The length of this was measured by the children, and planed poplar boards approximating the length were given them, to make ready for flooring. The lower floor was laid by them, the upper one being placed without their assistance.

The wall partitions having been made ready in the same way, a variety of opinions was expressed as to size and location of doorways, the children often referring to the comfort of expected

inmates. The boards were cut to admit of these spaces before being placed.

The furniture-making gave much pleasure. After a talk on the necessity of strength and good appearance, the children offered their plans for a chair — with no suggestion of either of the above qualities in them. These plans were willingly discarded when a chair was shown made in the following way (Fig. 3):

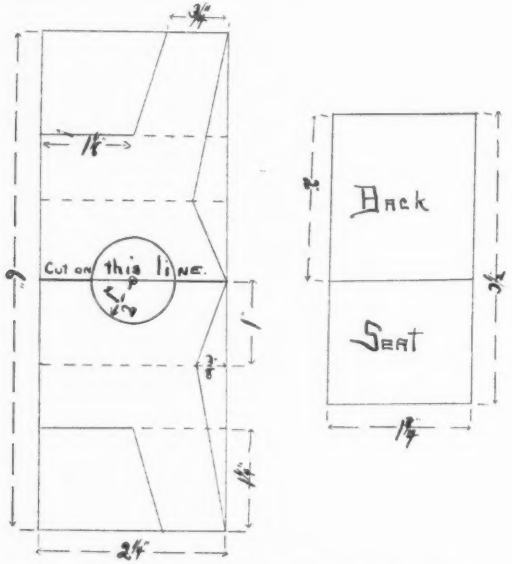


FIG. 3.—Chair. (Stock, one-fourth inch whitewood.)

Plans for such chairs were then made on paper from the following written directions:

Draw a rectangle 6 inches long and 2½ inches wide.
Draw a line across the center.
Draw a line 1 inch above the center.
Draw a line 1¾ inches above the center.
Put a dot in the middle of the center line.
Put a dot on the line above ⅜ of an inch from the edge.
Put a dot on the next line above 1⅛ inches from the same edge.
Put a dot on the top line ¾ of an inch from the same edge.

By connecting these dots, as seen in the drawing above (Fig. 3), one side of the chair was drawn. The other half of the rectangle was used for the second side of the chair. This drawing was again made on the rectangle of wood.

Directions were given in a similar way for all the furniture. The bedsteads were made from the following plan (Fig. 4):

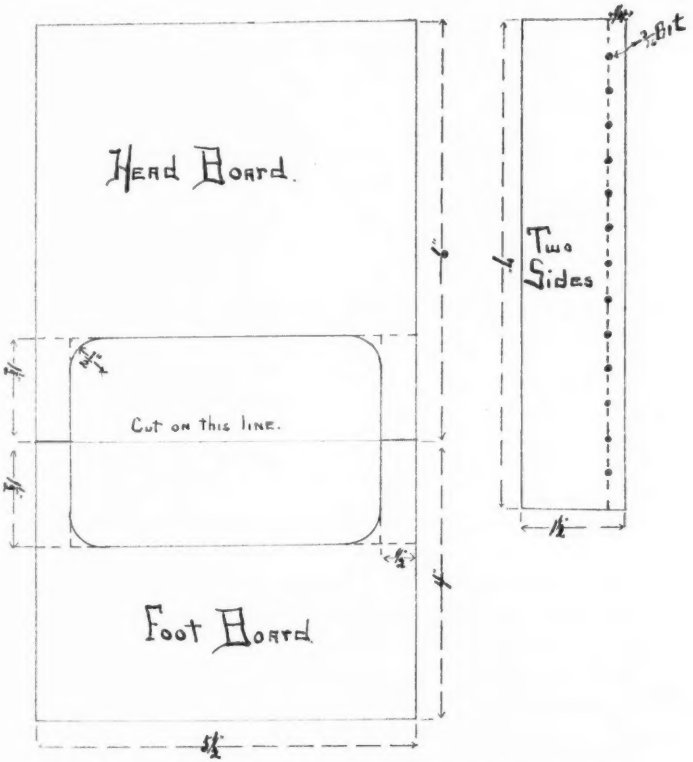


FIG. 4.—Bedstead. (Stock, three-eighths inch whitewood.)

The dining-room and living-room tables are made on the same plan, except for the round top of the dining-room table (Fig. 5).

Kitchen and pantry cupboards were made from chalk-boxes

cut to the proper size, shelves being added. A swing-seat, see-saw, and sand-box for the attic playroom were also made.

Stair-steps 1½ inches wide were cut, and placed in step-ladder fashion, as follows (Fig. 6).

After measuring the walls of the rooms, the position and size of the windows were determined. Openings were made with

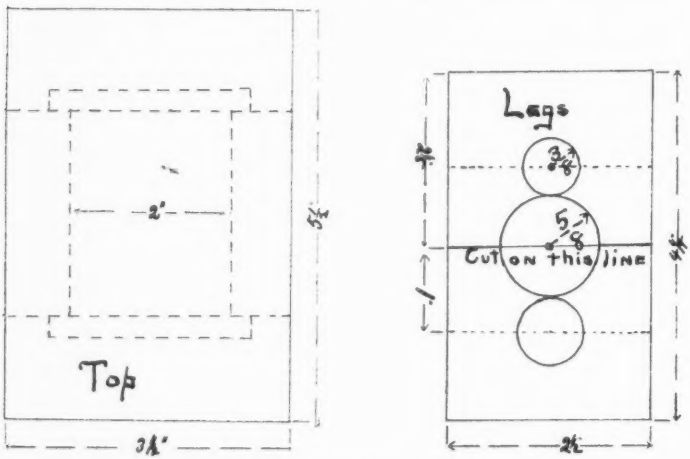


FIG. 5.—Table. (Stock, one-fourth inch whitewood.)

augur and saw, and the glass was held in place with frames inside and out.

For the papering of the walls the children and teachers were asked to contribute from paper remnants at home. With the aid of the teacher of art, a color scheme for each side of the house was chosen; and the children instinctively selected small designs. The opinion of one child was that "big flowers would be bigger than the people in the house."

In very generous response to a suggestion, the sixth grade painted borders in water-color for some of the rooms. The tan-colored walls of the living-room and dining-room are bordered with buttercups and cat-tails respectively; the light-blue walls of the nursery, with a charming border of children at a party. Two of the border units which were not needed were used as wall

decorations; one being of a cecropia moth that came from its cocoon in the schoolroom. (See Plate II, B and C.)

Mattresses, pillows, hemstitched sheets and pillowcases, blankets, quilts, and comforts, for two beds, were also made by the sixth grade. (The kindergarten will make an outfit for one bed.)

Window curtains and hemstitched linen tablecloths were as willingly made by the fifth grade. (The sewing was begun under the supervision of the grade teacher, but finished at home.)

Bricks for a chimney were made by the second grade, but, because of lack of time for baking and glazing, they will be kept for future use.

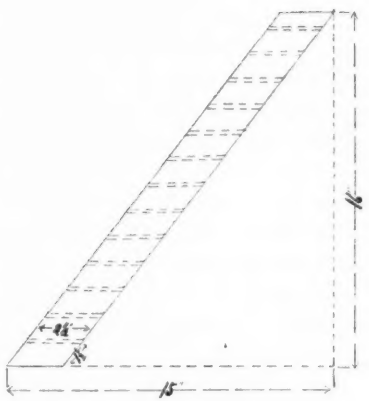


FIG. 6.—Stairs.

The interest and aid of these groups of older children were thoroughly enjoyed by the first grade.

The colors chosen for the outside painting of the house were stone-color and brown. The painting, staining of the furniture, and papering were done in springtime, when the same kinds of work were being done in the children's homes. This fact gave zest to the work in school, as well as suggestions as to how the work should be done.

Rugs of colored worsted were woven on simple looms. The looms were made by the children of this and another first grade. The weaving process was exceedingly slow and tiresome, and at the end of the year not one rug was completed. One has been finished during vacation, and three more may be finished at home.

Next year the second grade will weave rugs for us on better looms, by which more rapid results may be secured. The weaving by the first grade will be of a larger kind — raffia mats for the kitchen and bathroom, and hammocks for the attic playroom.

THE PARENTS' ASSOCIATION.

REPORT OF THE OCTOBER MEETING.

MRS. FRANK HUGH MONTGOMERY,
SECRETARY.

THE Parents' Association of the School of Education met at the school building on Thursday evening, October 20. The meeting was called to order by Dean Owen, who introduced the new president, Mr. Charles A. Heath.

Mr. Heath stated that the Parents' Association had done a good work in the past and hoped to do a larger in the future, and affirmed that parents and teachers were alike necessary to its well-being. He said that the work which had been done would have been impossible without the co-operation of the teachers. He emphasized the fact that discussion was open to all present. With pleasant wit, and apt stories of illustration of the differences between the old days and those of the new education, he made each feel at home and as if he had a part to play in making the association of value.

The secretary then gave a list of the chairmen of committees as follows:

Mrs. William Kent, chairman of the Finance Committee.
Mrs. Wilbur S. Jackman, chairman of the Home Committee.
Mrs. John O'Connor, chairman of the Education Committee.
Mrs. Warren McArthur, chairman of the Social Committee.

The secretary also outlined the work proposed for the year by the Program Committee. The plan was to have an evening devoted to each of the following subjects: "The Practical Side of the Child's Work;" "The Social Life;" "The Curriculum of the Elementary School;" "The Curriculum of the High School;" "The Physical Well-Being of the Child;" "Athletics and Play;" "The Child at Home;" and "Methods of Teaching;" with an evening devoted to the reports of the various committees and a discussion of the plans for the ensuing year.

It was voted, after a speech by the treasurer, Mr. A. V. Booth,

that the dues be $2 a year, which would pay for the notices of meetings, circulars, refreshments, etc.

The topic of the evening, "The Place of Industrial Work in the Home and the School," was introduced by Miss Clara Mitchell, who spoke chiefly of that side of the work in the Elementary School. She said that there industrial work consists in spinning, weaving, dyeing, in sewing and cutting of garments. In the lowest grades the work is confined to the use of primitive materials, such as the gathering and preparing of flax and grasses. But the end is the control of their own powers on the part of the children, rather than the gathering of materials. The children prepare their own flax or wool, spin it, and make their own spindles and dyes. The object is to have them gain in power, and in knowledge of materials and processes, and to become as accomplished as possible in color, design — in whatever is necessary to the education of taste. The children must know how to make, but they must also gain a knowledge of the history of fabrics, and some knowledge of the scientific facts underlying the processes. They must know what they are about. They like to feel that they are true to fundamental conditions. The end will be a socialized whole. The habit of making something of which they themselves can be the judges increases their power of judgment. Such work also affords scope for originality and initiative. In addition, the work is so related to other subjects that through the work of their hands they come into the culture which belongs to them. Miss Mitchell concluded by giving a concrete example of the work of seven-year-old children, their second year in school. They studied sheep and their fleeces, invented spindles, wove, designed, and were told the great shepherd stories, such as those of the Hebrews. She read the story of Abraham and the visit of the angels as written by a six-year-old child who in the process of his industrial work had learned to read and write.

The next speaker was Mrs. Norton. She said that in her talk she should bear in mind two questions that were frequently asked her: "Why do you have boys learn to cook?" and, "Why do you have little children learn to cook?" She said that cooking

was valuable as (1) manual training, and especially in developing delicacy of manipulation; (2) as applied science, the interest being very direct; (3) in social development. In this last respect, cooking had a higher social value than almost any other form of industrial work. It developed a sense of personal responsibility, of the dignity of labor, a control of environment, and a power of initiative, and gave a training in the economics of the consumption of time, material, and money. It was a good effect that work, often considered menial, should have a place in the high-school curriculum. The student gained a new interest in and appreciation of the home. With the younger children in especial there was an added interest in home life; and there was surely need for that in these days, and for boys quite as much as for girls. Little children came with great spontaneity to this work, and as it stood in such close relation to the other work in the school, the effects were very clearly marked. Mrs. Norton ended with a plea for co-operation by the home in the work of the high school as an essential part of the curriculum.

Mrs. William Hill then spoke on "Industrial Work in the Home." Mrs. Hill said that the assumption had been that our children were a product of evolution, being of finer clay than their parents, and that for them all physical hardship should be removed. But with the new education ideas had changed. Interest in colonial life and handicrafts had arisen and was played over in the schools. Valuable as this was, there was an omission of two important periods, for originally handicraft was, first, home education and, second, productive labor. At present the result was a change of basis of loyalty from the home to the school. The child did all of the interesting things at school, and at home expected to be entertained and to entertain. Mrs. Hill thought that perhaps the transfer from a smaller to a larger social unit was an advantage. The thing was to find something to take the place of the old industries in the home. In order to find out what children did at home, she had gone over the blanks filled out the preceding year by parents of the Elementary School children. Out of 228 pupils 195 had answered the question as to whether any work outside of the school was done by the children. Ninety-

seven answered in the affirmative. Music had the largest representation. The other things enumerated were dancing, home study, a language, play, housekeeping, gymnastics, manual training, and Sunday-school lessons. The home used to represent productive labor. We must invent something new. The ideal of education is productive labor. It must be adapted to our present needs. Booker T. Washington had shown his students how to react upon their environment. It remained for us to accomplish the same with our more complex conditions. The aspect of home industry was democratizing. The emancipation of the woman from old-time household drudgery had come, as had that of the child, from "being seen and not heard." These changes have not met with universal approval. But what had met with universal disapproval had been the emancipation of the servants. If our home was considered a place in which to develop industries, instead of a place in which to display our prosperity, we might attain greater results. We need the co-operation of the family in eliminating the servant problem. Through our new knowledge of the science of food-values great strides may be made. Such co-operation had many practical aspects, and there were great possibilities in making use of the help of our children, if we could have patience with the child's slowness and his tendency to let his interest be sidetracked.

Mrs. Errant expressed herself as increasingly in sympathy with each speaker, and told in detail of ways in which she had tried household industries in the development of her own family. She had found training in the care of their own rooms and clothing, and especially in cooking, to result in the training of eye, ear, and touch, and to engender responsibility and adaptability. She had made great use of the summer vacations and had seized the time when the children had shown the strongest interest. But she had found that the great problem was that they had not the time to devote to the home which they should have.

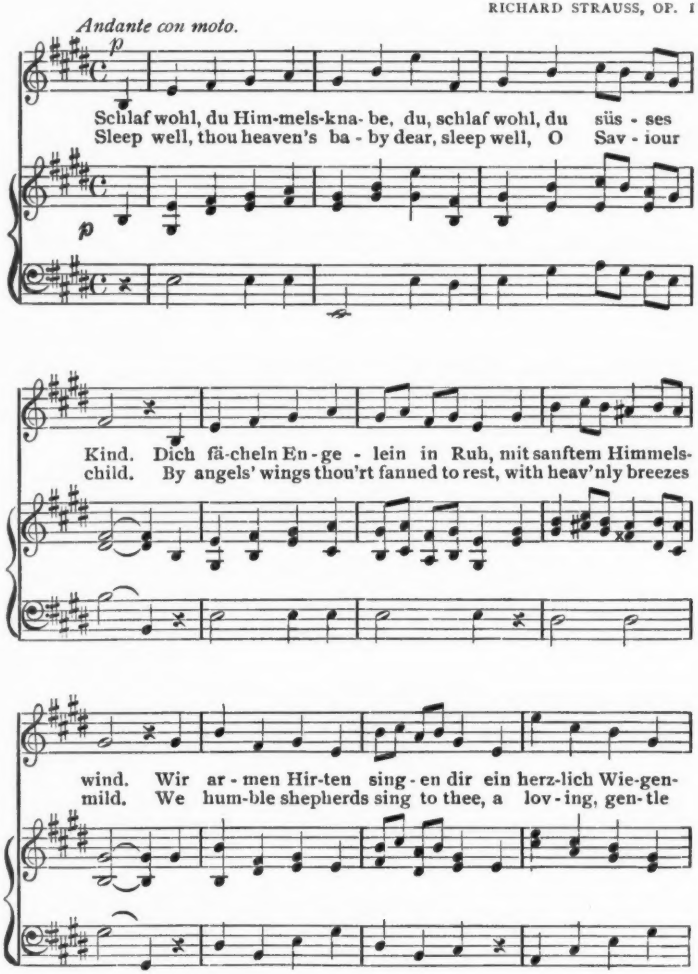
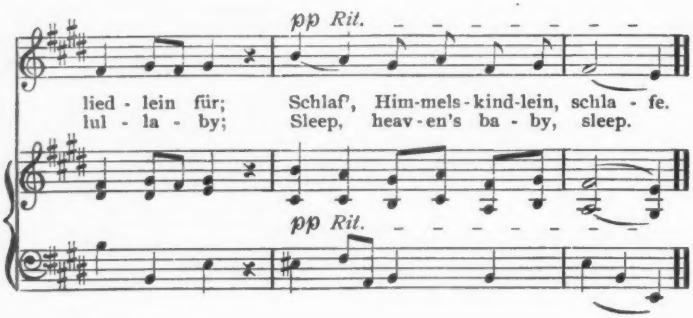
Mr. Jackman next spoke as parent and teacher. He considered the keynote of the Parents' Association to be to bring together the influence of the home and the school in the training of children. He told of the way in which the children were help-

ing in the beautifying of the grounds by planting bulbs. He thought the work must result in something really worth while. He said if the parents could send in a list of what was needed in the home in the way of shelves, etc., the school would be glad to make them. We must not always be looking back to primitive conditions, but find the needs of our own. He urged that the association had an opportunity to take hold of the larger possibilities of the school. He said the school needed an assembly hall and a gymnasium, and that a farm could be used with great profit in teaching the children some of the conditions of rural life. He pleaded for the interest of the parents in these matters, and ended with a description of the plans of the magazine, the ELEMENTARY SCHOOL TEACHER.

Mr. Owen expressed his great regret that Mr. Belfield could not be present and present his own field of manual training, in which he had labored so long and so successfully. He said that the equipment of the manual-training building was second to none in the country. He thought that the fundamental thing in industrial training was not technical skill, not to get immediate returns, but, broadly speaking, moral and spiritual results. The high-school work had a great reinforcement when this work was brought into the curriculum, and he wanted to do exactly the same thing for the girls as for the boys.

The meeting adjourned for refreshment and for social intercourse in the adjoining room.

WEIHNACHTSLIED (CHRISTMAS SONG).

RICHARD STRAUSS, OP. 1

Andante con moto.
p
Schlaf wohl, du Him-mels-kna- be, du, schlaf wohl, du süs - ses
Sleep well, thou heaven's ba - by dear, sleep well, O Sav - iour
p
Kind. Dich fä-cheln En - ge - lein in Ruh, mit sanftem Himmels-
child. By angels' wings thou'rt fanned to rest, with heav'nly breezes
wind. Wir ar - men Hir-ten sing - en dir ein herz-lich Wie-gen-
mild. We hum-ble shepherds sing to thee, a lov - ing, gen-tle

pp Rit.
lied - lein für; Schlaf', Him-mels-kind-lein, schla - fe.
lul - la - by; Sleep, heav-en's ba - by, sleep.
pp Rit.

EDITORIAL NOTES.

THE new education trails in its wake a procession of mourners. They are they who mourn because the children of today are less advanced in attainment, less efficient in training, and less tractable in mind than they were of yore. True or false as this may be, it seems that either with the aid of the schools, or in spite of them, humanity is wise in a larger number of things, it displays skill in wider fields, and it is sensitive to a greater diversity of influences than ever before. Education is a response to conditions; it justifies itself in the public demand. It hardly seems credible that the new education responds less well to the conditions of the new times than did the old to the conditions of other days.

The Mourners

The difference between the old and the new education is not merely one of degree; it is fundamentally a difference in kind. The old sought attainment, discipline, and docility of mind through the performance of tasks that were imposed from without. The new seeks the same ends through the growth of the initiative within.

The Real Difference

Education is not a matter of tasks; and this is the pitfall that catches most of the critics who compare the old with the new. If education were the result of tasks arbitrarily imposed; and if the old set tasks for the pupils that were difficult enough to hold them to the top notch of effort; and if the new levied only those that were so easy that the pupils became dawdlers, then indeed should the mourners continue to mourn.

Teacher Not a Taskmaster

Personal Initiative

But here is the difference that is world-wide: the new, rejecting the idea of imposing tasks, seeks to establish conditions that challenge the personal initiative. The old, therefore, prized and measured attainment as a quantitative result; the new measures it alone by quality. The old recognized as training and discipline the so-called voluntary attention which seemed to be mainly the ability to stare, ox-like, a disagreeable, uninteresting, or unintelligible thing out of countenance. The new believes in the training and discipline that come from the pupil's effort to follow up from premise to conclusion something that mightily interests him. The old found satisfaction in the state of mind that was quietly receptive; the new sees hope in the turbulence and unrest of alert inquiry. These are irreconcilable differences in kind.

The Counter Initiative

The principles of the new education are frequently misunderstood, wrongly interpreted, and misapplied. The doctrine of personal initiative is sometimes overworked. Children occasionally initiate proceedings that, if pursued, would result in the eviction of their elders from under the parental roof. The privileges of the counter-initiative on the part of the old folk should always be recognized. The resultant of the two movements should be better mutual understanding and better adaptation.

He who demands the right of initiative in the household or community, be he old or young, must assume a definite responsibility for making it more pleasantly habitable. That is what the household or the community gets out of the deal. This cultivates that feeling of respect for the rights of others which, the mourners say, the new education does not properly inculcate. There is no conflict, therefore, between the freest play of the initiative and the most perfect form of governmental control, because the whole matter is placed at once upon the highest ethical grounds.

There are those who believe that the initiative is all there is to it; that the new education is the doctrine, literally, of endless beginnings! If it works out that way in practice, it is usually because the teacher is a kind of pedagogical kangaroo. The true initiative is the reaction to a clearly discerned purpose. The attainment of the end, the completion of the work, is the final test by which we determine the sanity and educational worth of the initiative.

Initiative Not Endless Beginnings

The keynote of the new education is *motive;* to establish and maintain the natural conditions which will enable the pupil to realize it, is the sole function of the teacher and all the machinery of the school. Purpose is derived from a recognized need; the new education measures its depth by the quality of the supply furnished by the pupil. The initiative involves responsibility for the result. The new education grants the freedom of the initiative to the child, but it places at the same time the responsibility of deepening his appreciation of the importance of the end upon the teacher and the parent.

Motive

The ultimate product of the new education is *a responsible human being.* This is indeed the highest result of all education — new or old — and there never has been any true education which did not end in such a goal. Here is the weak spot in that duplex educational machine of today, the school and the home. Both school and home often seem bent upon shielding the child from responsibility, instead of placing him under those natural conditions which tend to develop it. There are girls in the grammar grades — thousands of them — who, did occasion demand, could step into the center of a household and organize and manage it; there are boys in the grammar grades — thousands of them — that, were it actually necessary, could go right out into the teeth of the world and support their mother and rejoice in doing it. Such demands would, indeed, be too severe. Heaven forbid that childhood and youth should be worn thread-

Responsibility

bare by those grinding exactions that often come to them because of the irresponsibilities or misfortunes of others. But between this extreme and the other, where they do not have any responsibility, there is an infinite distance. From the day when the little toddler neatly folds and lays away in her toy bureau the dress of her doll until she takes the helm of an establishment of her own, both she and her brother should be actual participants in due proportion in the thoughts and the work of the household and community. It is not necessary, it is not even right, that these responsibilities should be heavy; but it is absolutely essential that they should be real. *They must be worth something;* they must stand for something, not only for ends that lie within the children themselves; they must count for something also toward the joy, the happiness, and the welfare of others. This is the heart of the new education. Let the mourners be comforted.

W. S. J.

BOOK REVIEWS.

The Appleton Arithmetic. Books I, II. By J. W. A. YOUNG, University of Chicago, and L. L. JACKSON, State Normal School, Brockport, N. Y. Appleton (Third and last volume to appear soon).

IN these times great courage and good judgment are prime requisites on the part of qualified men to produce successfully a new series of texts on arithmetic. Particularly is this true in view of the facts that so great a number are upon the market, and that neither the publishers nor the public are prepared fitly to recognize and support what is pedagogically best. It must be conceded, however, upon impartial investigation, that the trained, experienced, and able educators, Messrs. Young and Jackson, have succeeded admirably, both from a pedagogic and from a practical standpoint, in giving the people of this country two books of their series which stand at the head of such publications.

In these books stress has been put upon the useful in a teachable way, while the obsolete has been omitted. A minimum of theory is presented, and that in the main incidentally. The arrangement of the subject-matter wisely follows the mental development of the child rather than the logical order. The problems are modern, systematic, interesting, and well calculated to impress the topics they illustrate. Frequently they are solved experimentally, in ways which appeal agreeably to children.

The pictures and diagrams are primarily for instruction. They will gain and hold the attention of learners because they deal with objects and scenes intrinsically interesting and within the experience of the young. The mechanical execution is attractive.

The frequent reviews are admirable. So also is the frequent recurrence to subjects as the maturity and broader grasp of the student enables him to master the topics more completely. Surely the introduction of the simplified weights is correctly done, especially in connection with the ingenious practical uses to be actually exemplified within the classroom.

A reader of the books is favorably impressed by the forms introduced to illustrate business transactions, such as gas bill, lease, money order, receipt, check, and cash account.

The principles are made evident by means of well-graded problems, drawn from every-day life in original ways. The devices used are valuable and suggestive as to correct methods of imparting the elements of mathematical knowledge.

The index is a new feature in elementary arithmetics, both appropriate and necessary in connection with the pedagogical order of topics.

Such are some of the reasons why these books are considered a distinct advance over previous arithmetics. They should aid in securing superior results in training the young where they are intelligently and sympathetically used.

E. C. LAVERS, PH.D.

PUBLIC HIGH SCHOOL,
Easton, Pa.

The Ship of State. By Those at the Helm. Boston: Ginn & Co., 1904. Pp. 264.

A book written in language so well chosen that all who read may understand. Were such books more often read, there would be less absurd criticism of the heads of departments. The duties of our representatives at Washington should be known by every citizen. An excellent idea of them can be had by those who will take the time to read this little book. It should be in every school library. The portrait illustrations are very good. Those of the Senate chamber, the House of Representatives, and the upper deck of a battleship should be much better or left out entirely.

WILLIAM M. GIFFIN.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.

CROSS. *Silas Marner.* (New York: American Book Co.) $0.40.

MACDONALD. *Conciliation.* (New York: American Book Co.) $0.35.

CHARLES DICKENS. *Christmas Stories.* (New York: American Book Co.) $0.50.

TANNER. *Elementary Algebra.* (New York: American Book Co.) $1.

GOFF AND MAYNE. *First Principles of Agriculture.* (New York: American Book Co.) $0.80.

WALKER. *Our Birds and Their Nestlings.* (New York: American Book Co.) $0.60.

CARTER. *Nature Study with Common Things.* (New York: American Book Co.) $0.60.

SMITH. *Grammar School Arithmetic.* (Boston: Ginn & Co.) $0.65.

PARKER. *Uncle Robert's Geography;* IV: "A River Journey." (New York: D. Appleton & Co.)

BARDEEN. *Fifty-five Years Old.* (Syracuse, N. Y.: C. W. Bardeen.) $1.

PAMPHLETS.

CHANCELLOR. *Graded City Speller.* (New York: The Macmillan Co.) $0.56. Second Year Grade, Part I; Second Year Grade, Part II; Third Year Grade, Part I; Third Year Grade, Part II; Fourth Year Grade, Part I; Fourth Year Grade, Part II; Fifth Year Grade.

Bulletin No. 1, July, 1904. Association of Teachers of Mathematics in the Middle States and Maryland. (New York: Published by the Association.)

ALEXANDER MELVILLE BELL. *English Visible Speech and its Typography Elucidated.* (Washington, D. C.: Gibson Bros.)

Reports of an Investigation concerning the Cost of Maintaining the Public School System of the City of New York. Department of Finance, New York, June, 1904. (New York: Martin R. Brown Co.)

The Cause and Prevention of Consumption. Circular issued by the Illinois State Board of Health, 1904.